

3.3 Ecology & Wetlands

3.3.1 Existing Conditions - Vegetation

Regional Context

The proposed project is located at the southern end of the Village of Chestnut Ridge, Rockland County, New York. The property has frontage on Red Schoolhouse Road to the west, Loescher Lane to the south, and Gary Drive and South Pascack Road to the east. The project site is located approximately 1,000 feet north of the New Jersey State line.

The site consists of six parcels in the southerly portion of the Village adjacent to the Village's boundary with Orangetown.. The 39.6 acre mixed use project site includes the following Village Tax Lots:

- 68.09-2-9
- 68.09-2-10
- 68.09-2-11
- 68.09-2-12
- 68.09-2-22
- 68.13-1-6

There is one single family house on the large lot in the center of the site and the northern lot along Red Schoolhouse Road is currently being used for automobile storage. An existing seasonal stream flows through the property from west to east, entering the site from the school bus storage lot to the north and exiting through a large culvert under the properties on South Pascack Road to the east. There is a pocket of freshwater wetlands totaling 0.49 acres on the project site adjacent to Gary Drive and South Pascack Road; the wetlands are regulated by the US Army Corps of Engineers ("ACOE"). Approximately 29 acres of the site is wooded, and 10.2 acres are either the impervious surfaces associated with the commercial parcel or grass and landscaped areas associated with the existing residences and maintained lawn.

An aerial photograph of the project site and surrounding area is provided in Figure 3.3-1.

Vegetation

The Equestrian Estates site is consistently wooded with the exception of small openings in the canopy immediately around the existing residence and the open field adjacent to Red Schoolhouse Road. The vegetation is best characterized as an oak-tulip tree forest, which is described in "Ecological Communities of New York State" (Reschke, 1990) as "a mesophytic hardwood forest that occurs on moist, well-drained sites in southeastern New York". However, the forest has a higher density of red oak and chestnut oak than tulip poplar, and is not a prime example of this community type. The following vegetation species were identified on the site.

Table 3.3-1	
Comprehensive List of Observed Vegetation	
(Table continues on several pages.)	
Scientific Name	Common Name
Trees	
<i>Acer rubrum</i>	Red maple
<i>Acer saccharum</i>	Sugar maple
<i>Acer palmatum</i>	Japanese mountain maple
<i>Acer platanoides</i>	Norway maple
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Betula allegheniensis</i>	Yellow birch
<i>Betula lenta</i>	Sweet (black) birch
<i>Carpinus caroliniana</i>	Hornbeam
<i>Carya ovata</i>	Shagbark hickory
<i>Carya glabra</i>	Pignut hickory
<i>Fagus grandifolia</i>	American beech
<i>Liriodendron tulipifera</i>	Tulip poplar
<i>Picea abies</i>	Norway spruce
<i>Pinus strobus</i>	Eastern white pine
<i>Quercus alba</i>	White oak
<i>Quercus prinus</i>	Chestnut oak
<i>Quercus rubra</i>	Northern red oak
<i>Robinia pseudoacacia</i>	Black locust
<i>Ulmus americana</i>	American elm
<i>Ulmus rubra</i>	Slippery elm
Shrubs	
<i>Berberis thunbergii</i>	Japanese barberry
<i>Euonymus alatus</i>	Winged euonymus
<i>Lindera benzoin</i>	Spicebush
<i>Ligustrum vulgare</i>	Privet
<i>Rosa multiflora</i>	Multiflora rose
<i>Rubus allegheniensis</i>	Allegheny blackberry
<i>Viburnum lentago</i>	Nannyberry
Forbs and Vines	
<i>Alliaria petiolata</i>	Garlic mustard
<i>Artemisia vulgaris</i>	Mugwort
<i>Asclepias syriaca</i>	Common milkweed
<i>Celastrus orbiculatus</i>	Oriental bittersweet
<i>Chrysocephalum apiculatum</i>	Common everlasting
<i>Eupatorium perfoliatum</i>	Boneset
<i>Lythrum salicarium</i>	Purple loosestrife
<i>Oxalis stricta</i>	Yellow wood sorrel
<i>Pachysandra terminalis</i>	Japanese spurge
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Pilea pumila</i>	Clearweed
<i>Plantago lanceolata</i>	English plantain
<i>Polygonum cuspidatum</i>	Japanese knotweed
<i>Polygonum pensylvanicum</i>	Pennsylvania smartweed
<i>Rumex crispus</i>	Curly dock

Table 3.3-1	
Comprehensive List of Observed Vegetation	
(Table continues on several pages.)	
Scientific Name	Common Name
<i>Solidago spp.</i>	Goldenrod
<i>Smilax rotundifolia</i>	Greenbriar
<i>Toxicodendron radicans</i>	Poison ivy
<i>Vinca minor</i>	Periwinkle
<i>Vitis vulpes</i>	Fox grape
<i>Wisteria sinensis</i>	Wisteria
Grasses	
<i>Carex crinita</i>	Fringed sedge
<i>Dichanthelium clandestinum</i>	Deer-tongue witchgrass
<i>Echinochloa crus-galli</i>	Barnyard grass
<i>Microstegium vimineum</i>	Japanese stilt grass
Moss/Ferns	
<i>Athyrium filix-femina*</i>	Lady fern
<i>Polystichum acrostichoides*</i>	Christmas fern
* Indicates species listed by New York State as exploitable vulnerable. Source: Tim Miller Associates, 2020.	

Rare or Unusual Plant Species

A review of the New York State Environmental Resource Mapper (ERM) indicates that there are no known occurrences of rare or unusual plant species or habitat types on this property (Figure 3.3-2). The ERM is the repository for the Natural Heritage Program's database. A visual survey of the site confirmed that there are no known rare or unusual plant species on the parcels.

3.3.2 Existing Conditions - Fish and Wildlife

Known and Potential Wildlife Species

A biological assessment field survey was conducted by a TMA biologist on October 15, 2020. The results of this survey are contained in this chapter. As indicated, no species nor habitat of rare or protected species was observed. A variety of small terrestrial animals have been observed on the project site including raccoons, squirrels, and chipmunks. Deer also utilize the property. The project site is likely to provide habitat for a number of other local species including nocturnal species such as raccoon and opossum. The larger and dead trees on this site may also offer a cavity habitat for species such as owls, cavity nesting songbirds and small mammals.

The intermittent stream on the site is approximately two to four feet wide with a rocky bottom. The stream does not support any fish species due to its seasonal flow, but may support some small aquatic invertebrate species and provide water for larger species on the site.

Table 3.3-2 provides a list of wildlife species common to the area which are known or could reasonably be expected to utilize the site. This list identifies common species that are likely to utilize the habitat types available at the project site. It is noted that this list is not limited to actual observations at the site, but is a compilation of observations that have occurred throughout eastern Rockland County in similar habitat conditions.

Table 3.3-2 Known or Potential Wildlife at the Site			
Common Name	Scientific Name	Common Name	Scientific Name
Mammals		Birds	
white-tail deer*	<i>Odocoileus virginianus</i>	turkey	<i>Meleagris gallopavo</i>
cottontail rabbit	<i>Sylvilagus floridanus</i>	Eastern wood pewee*	<i>Contopus virens</i>
raccoon*	<i>Procyon lotor</i>	wood thrush	<i>Hylocichla mustelina</i>
red fox	<i>Vulpes</i>	pileated woodpecker*	<i>Dryocopus pileatus</i>
gray fox	<i>Urocyon cinereoargenteus</i>	hairy woodpecker	<i>Picoides villosus</i>
opossum	<i>Didelphis virginiana</i>	downy woodpecker	<i>Picoides pubescens</i>
eastern chipmunk*	<i>Eutamias sp.</i>	yellow shafted flicker	<i>Colaptes auratus</i>
gray squirrel*	<i>Sciurus carolinensis</i>	ovenbird	<i>Seiurus aurocapillus</i>
striped skunk	<i>Mephitis</i>	yellow-billed cuckoo	<i>Coccyzus americanus</i>
white-footed mouse	<i>Peromyscus leucopus</i>	red-tailed hawk*	<i>Buteo jamaicensis</i>
deer mouse	<i>Peromyscus maniculatus</i>	robin*	<i>Turdus migratorius</i>
woodchuck*	<i>Marmota monax</i>	catbird*	<i>Dumetella carolinensis</i>
short-tailed shrew	<i>Blarina brevicauda</i>	mockingbird*	<i>Mimus polyglottos</i>
common shrew	<i>Sorex cinereus</i>	flycatchers	<i>Empidonax sp.</i>
star-nosed mole	<i>Codylura cristata</i>	eastern phoebe	<i>Sayornis phoebe</i>
eastern mole	<i>Scalopus aquaticus</i>	American redstart	<i>Setophaga ruticella</i>
little brown bat	<i>Myotis lucifugus</i>	red-eyed vireo	<i>Vireo olivaceus</i>
red bat	<i>Lasiurus borealis</i>	crow*	<i>Corvus brachyrhynchos</i>
		blue jay*	<i>Cyanocitta cristata</i>
		scarlet tanager	<i>Piranga olivacea</i>
Reptiles		American goldfinch	<i>Carduelis tristis</i>
garter snake	<i>Thamnophis sirtalis</i>	cardinal*	<i>Cardinalis</i>
brown snake	<i>Storeria dekayi</i>	chipping sparrow	<i>Spizella passerina</i>
		towhee	<i>Pipilo erythrophthalmus</i>
Amphibians		junco*	<i>Junco hyemalis</i>
American toad	<i>Bufo americanus</i>	mourning dove*	<i>Zenaidra macroura</i>
gray treefrog	<i>Hyla versicolor</i>	chickadee	<i>Parus spp.</i>
newt	<i>Notophthalmus viridescens</i>	nuthatch*	<i>Sitta spp.</i>
red-backed salamander	<i>Plethodon cinereus</i>	turkey vulture	<i>Cathartes aura</i>
		E. screech owl	<i>Otus asio</i>
		great horned owl	<i>Bubo virginianus</i>
		wren*	<i>Troglodytes sp.</i>
		Red-bellied woodpecker*	<i>Melanerpes carolinus</i>
<p>* Direct or indirect observation at project site. This list represents many species that could potentially inhabit this site. It is not, however, an exhaustive list, particularly relative to migratory bird species. Source: Tim Miller Associates, Inc., 2021.</p>			

According to the NYSDEC Natural Heritage Program (via the ERM), no threatened or endangered species have been identified in the vicinity of this property.

3.3.3 Existing Conditions - Wetlands

As illustrated in Figure 3.3-3, the NYS DEC Environmental Mapper shows there are no New York State wetlands mapped on the site.

There are two wetland areas, Wetland A and Wetland B, on the site that are federal wetlands under the jurisdiction of the Army Corps of Engineers. Figure 3.3-4 illustrates the location of these Wetlands.

Wetland A (37,840 sf) is associated with an intermittent stream corridor that traverses the site from west to east, beginning at a culvert under Red Schoolhouse Road. The stream flows through the site in a deep, well defined channel until reaching a large culvert just west of South Pascack Road. There is no significant wetland vegetation within the stream corridor, but rather common streambank and transitional species such as red maple, hornbeam, black birch and winged euonymus. Soils are generally coarse sand and gravel within the stream corridor. The stream ultimately discharges to the Pascack Brook to the west via the municipal drainage system.

Wetland A provides flood and erosion protection by way of its deep channel and stabilized banks. The stream bottom likely provides some habitat for small amphibians and macroinvertebrates. The stony stream bottom causes aeration of the water as it flows by, improving water quality to receiving waters downstream.

Wetland B (21,216 sf) is located in an opening in the canopy at the corner of Gary Drive and South Pascack Road, and is derived from hillside seepage and shallow lateral flow. Dominant vegetation species in Wetland B are red maple, spicebush, soft rush and tussock sedge. Soils are generally sandy loams with dense organic matter at the surface, saturated by the discharge of the groundwater flow. Water exits the wetland via a culvert under Gary Drive, ultimately discharging to the Pascack Brook to the east.

Wetland B provides a discharge point for the lateral subsurface flow of the watershed, created a saturated surface that provides some habitat for macroinvertebrates and a more diverse vegetation community than on other parts of the site.

3.3.4 Potential Impacts - Vegetation

The development proposal includes up to 62 duplex townhouse units; plus 84 rental flats above a retail building on Red Schoolhouse Road; up to 118 senior residential rental units (limited to those aged 55 and older); and two single family homes in the vicinity of Gary Drive. Thus, the project proposes a total of 266 residential units on 39.6-acre site.

The development plan involves clearing and grading disturbance to approximately 31.6 acres of the 39.6 acre project site for the creation of three new parcels. The remaining 8 acres will remain undisturbed lands. Of the disturbance area, approximately 10 acres is previously disturbed land associated with the vehicle storage lot, warehouse building, driveway and three existing residences on the site. The remainder of the disturbance area is currently stream corridor, woodland and open meadow.

The proposed mixed use buildings and open pad site will occur at the road frontage on Red Schoolhouse Road, which are currently either developed or maintained as open lawn areas (see Figure 3.3-1). This portion of the site encompasses approximately 10 acres. As seen on the 1987 aerial photo (Figure 3.3-5), all of this frontage historically supported commercial uses and has been devoid of natural vegetation for decades. Disturbance to this part of the site is not expected to have any adverse ecological impacts.

The remainder of the site is relatively intact as an undisturbed woodland. The proposed development will change the site from woodland to maintained, suburban residential development, albeit in an already moderately dense suburban neighborhood. All of the observed plant species are relatively common in Chestnut Ridge and Rockland County.

The removal of the trees on the site will reduce the vegetative diversity of the site and alter the available habitat for wildlife.

As previously described, no protected plant species are known or expected to occur on the project site. A biological assessment field survey was conducted by a TMA biologist in October 2020 and no species nor habitat for rare or protected species was observed. Therefore, no impacts to rare or protected plant species are anticipated as a result of the proposed action. The site is not known to provide habitat for any wildlife species listed as endangered or threatened by the New York State Department of Environmental Conservation. Therefore, no significant adverse impacts to protected wildlife species are anticipated.

3.3.5 Potential Impacts - Fish and Wildlife

Some loss of wildlife habitat will result from the proposed development as described in the above section. The on-site woodlands will be cleared to provide building envelopes for the proposed road, driveways, residences, and lawn areas.

The removal of the woodlands on this site will likely result in the reduction of species that are dependent on undisturbed forested area for habitat. These species are dominated by resident woodland birds, including owls, wood thrush and ovenbirds. At 29.6 acres, however, the woodlands on this site provide only a minimal potential for extended breeding populations of these species, as they typically require larger tracts of undisturbed forest. Regardless, isolated breeding pairs of these species may be affected by this proposal. Similarly, the decrease in the areas of closed forest canopy may impact the migratory use of the site by certain warblers and birds of prey.

Other species that have been identified as potentially using the site may be impacted by the level of proposed disturbance. Snakes and foxes, likely users of the site due to the varied topography, good cover and presence of prey species may be impacted by construction and subsequent human activity.

The other species that are known or expected to utilize this site are adapted to a more suburban environment, and it is not anticipated that the diversity of these species will decrease, although total populations might. Since these species are adapted to the local climate, seasonal impacts are not expected, with the exception of the increased noise and activity associated with residential use of the outdoor spaces and landscape maintenance.

In general, as a project site is developed, some species will temporarily relocate to similar habitats off-site. Some species that potentially utilize this site (pileated woodpecker, red fox, brown snake), if present, may move temporarily as a result of activity and noise during road construction. The composition of the wildlife population on the project site may be slightly altered immediately adjacent to developed areas, as species able to adapt to a suburban environment (such as raccoons, opossum, woodchucks, mice, songbirds, etc.) will have a greater ecological advantage, while species less tolerant of human activity (including the sensitive species listed above) may utilize these portions of the project site less.

3.3.6 Potential Impacts - Wetlands

No direct impacts to wetlands are proposed. The location of the stream crossing to access the senior housing was chosen to utilize the existing crossing, and will be a structure that will not require fill or diversion of the watercourse channel. The driveway access to one of the proposed homes on Gary Drive will similarly not directly impact Wetland B.

Construction will occur in close proximity to the main wetland corridor, but this is primarily for stormwater management structures designed to protect the water quality of the receiving waters. These basins will be planted with native species and ultimately will function in a manner similar to natural wetlands in regards to water quality protection and habitat for a number of species, primarily birds.

3.3.7 Mitigation Measures – Vegetation

Although not as valuable as natural undisturbed habitat, the mixture of ornamental and native landscaping plants, that will be planted to re-vegetate disturbed areas adjacent to the residences would provide some benefit to wildlife species that can adapt to suburban environments. Many of these plants provide a certain degree of wildlife value such as food and nesting opportunities. Typical landscape plantings are likely to include those species listed in Table 3.3-3 or similar selections.

Table 3.3-3 "Typical" Upland Condition Landscaping Plantings	
Trees	Shrubs
Deciduous Trees - Major	Deciduous Shrubs
horse chestnut (<i>Aesculus hippocastanum</i>)	bottlebrush buckeye (<i>Aesculus parviflora</i>)
red maple (<i>Acer rubrum</i>)	oak leaf hydrangea (<i>Hydrangea quercifolia</i>)
American beech (<i>Fagus grandifolia</i>)	Witchhazel (<i>Hamamelis virginiana</i>)
white oak (<i>Quercus alba</i>)	staghorn sumac (<i>Rhus typhina</i>)
red oak (<i>Quercus rubra</i>)	beautybush (<i>Kolkwitzia amabilis</i>)
little leaf linden (<i>Tilia cordata</i>)	bayberry (<i>Myrica pennsylvanica</i>)
American elm (<i>Ulmus americana</i>)	viburnum (<i>Viburnum sp.</i>)
Deciduous Tees - Minor	Evergreen shrubs
shadblow (<i>Amelanchier canadensis</i>)	inkberry (<i>Ilex glabra</i>)
paperbark birch (<i>Betula papyrifera</i>)	Virginia red cedar (<i>Juniperus virginiana</i>)
flowering dogwood (<i>Cornus florida</i>)	mountain laurel (<i>Kalmia latifolia</i>)
crabapple (<i>Malus sp.</i>)	rosebay rhododendron (<i>Rhododendron maximum</i>)
cherry (<i>Prunus sp.</i>)	white rhododendron (<i>Rhododendron album</i>)
plum (<i>Prunus sp.</i>)	leatherleaf viburnum (<i>Viburnum rhytidophyllum</i>)
Coniferous Trees	
white fir (<i>Abies concolor</i>)	
Colorado spruce (<i>Picea pungens</i>)	
Norway spruce (<i>Picea abies</i>)	
douglas fir (<i>Pseudotsuga mensiesii</i>)	
white pine (<i>Pinus strobus</i>)	
red pine (<i>Pinus resinosa</i>)	
SOURCE: Tim Miller Associates, Inc., 2021.	

3.3.8 Mitigation Measures – Fish and Wildlife

While not as valuable as the existing forested habitat, the proposed lawns and landscaping will still be used as forage by deer and other plant-eating wildlife, and many species of trees and shrubs commonly chosen for home landscaping will provide both food and nesting sites for songbirds and other avian species. The use of lawn fertilizers and pesticides is expected to impact only those plant and animal species at the immediate point of contact. In residential developments such as the one proposed, these materials are most frequently applied by licensed professionals rather than untrained homeowners. The provision of stormwater quality treatment structures and vegetated buffers between lawn and wetland and watercourse areas is expected to mitigate any potential impacts.

3.3.9 Mitigation Measures – Wetlands

To reduce potential impacts to the on-site wetland habitat, as well as to protect off-site undisturbed natural areas, the following mitigation measures are proposed to reduce the potential for soil erosion and sedimentation to these areas. The stormwater management system is designed to ensure that the existing water quality of the stream that flows through the site is not degraded.

- Erosion and sediment controls would be utilized throughout the construction phase of the project until all disturbed area are fully developed or soils have been stabilized through

vegetation plantings or other means. These measures are described in Chapter 3.1 of the DEIS.

- Introduction of a stormwater management system that would provide appropriate water quality treatment and would meet the criteria of the applicable New York State General Permit for stormwater discharge from a construction activity.

With the implementation of the proposed stormwater and erosion control measures (see Section 3.1 and 3.2), the proposed project would not adversely impact the quantity or quality of on-site or off-site surface water resources. In fact, the proposed project would result in reductions in the existing levels of sediment, phosphorous, nitrogen, and Biochemical Oxygen Demand (BOD) in stormwater runoff from the project site following the treatment of stormwater runoff by a variety of proposed stormwater best management practices (see Section 3.2).

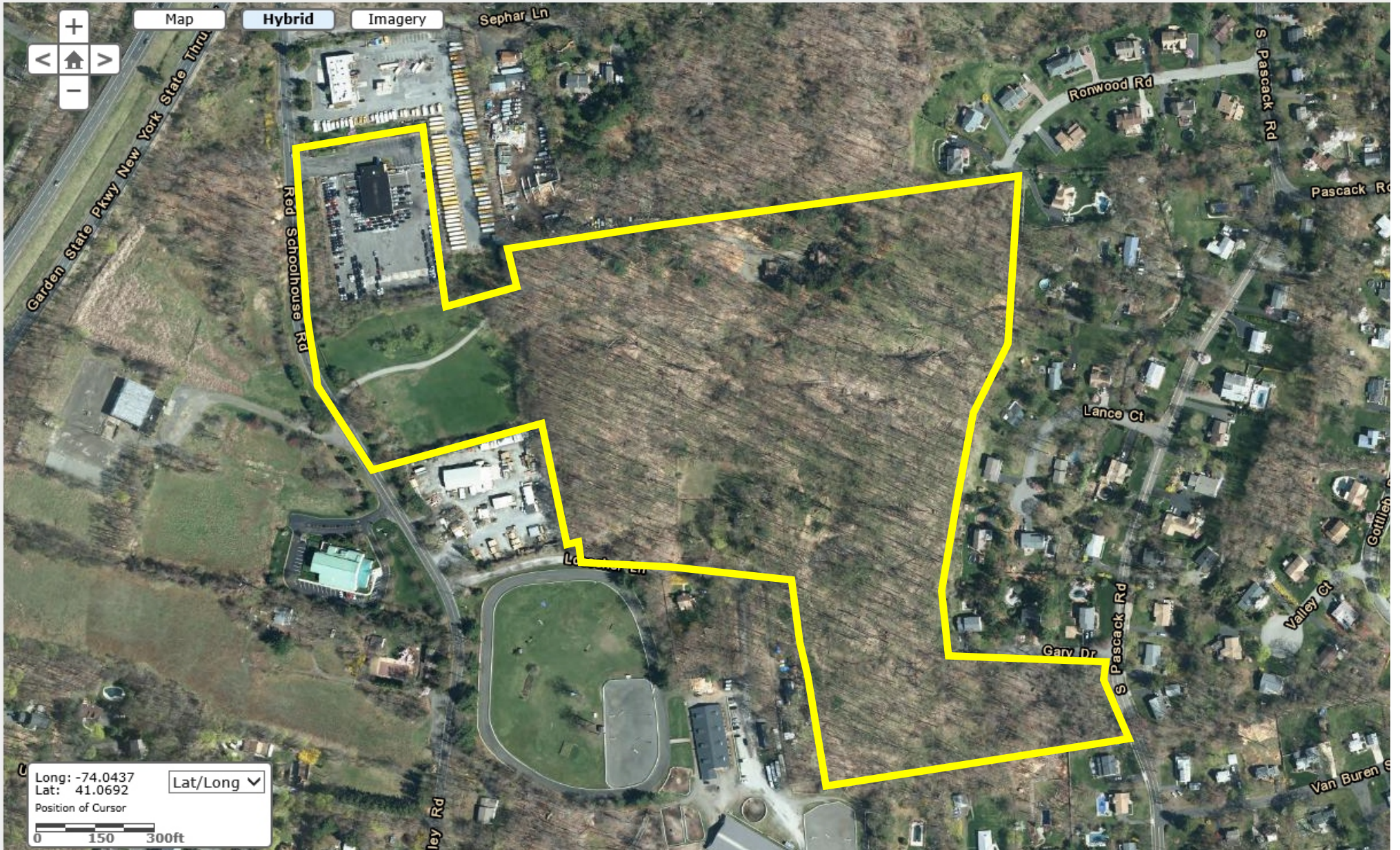


Figure 3.3-1: 2016 Aerial Photo
Village of Chestnut Ridge, Rockland County, NY
Source: New York State DEC GIS



Environmental Resource Mapper

Base Map: Topographical Using this map

Search

Tools

Layers and Legend

- All Layers
- ★ Unique Geological Features
- Waterbody Classifications for Rivers/Streams i
- Waterbody Classifications for Lakes
- State Regulated Freshwater Wetlands (Outside of the Adirondack Park)
- State Regulated Wetland Checkzone i
- Significant Natural Communities i
- Natural Communities Near This Location i
- Rare Plants or Animals
- Base Flood Elevation Plus 72/75 Inches Sea-level Rise
- Limit to Moderate Wave Action

Other Wetland Layers

Reference Layers

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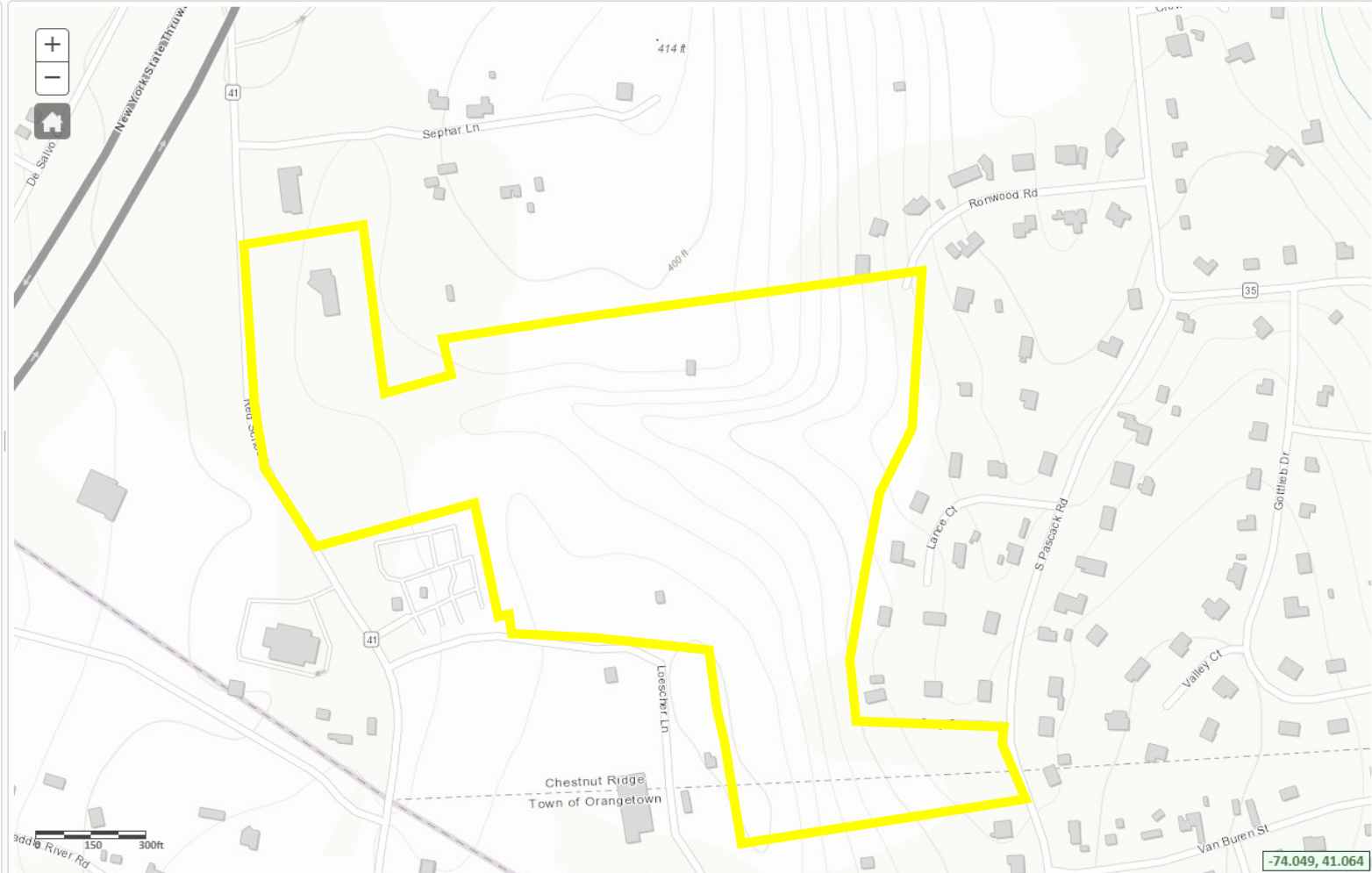


Figure 3.3-2: NYSDEC Environmental Resource Mapper
 Village of Chestnut Ridge, Rockland County, NY
 Source: New York State DEC



Environmental Resource Mapper

Base Map: Topographical Using this map

Search

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Unique Geological Features

Waterbody Classifications for Rivers/Streams i

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State Regulated Freshwater Wetlands (Outside of the Adirondack Park)

State Regulated Wetland Checkzone i

Significant Natural Communities

Natural Communities Near This Location i

Rare Plants or Animals

Base Flood Elevation Plus 72/75 Inches Sea-level Rise

Limit to Moderate Wave Action

Other Wetland Layers

Reference Layers

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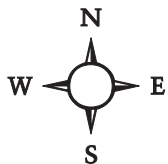
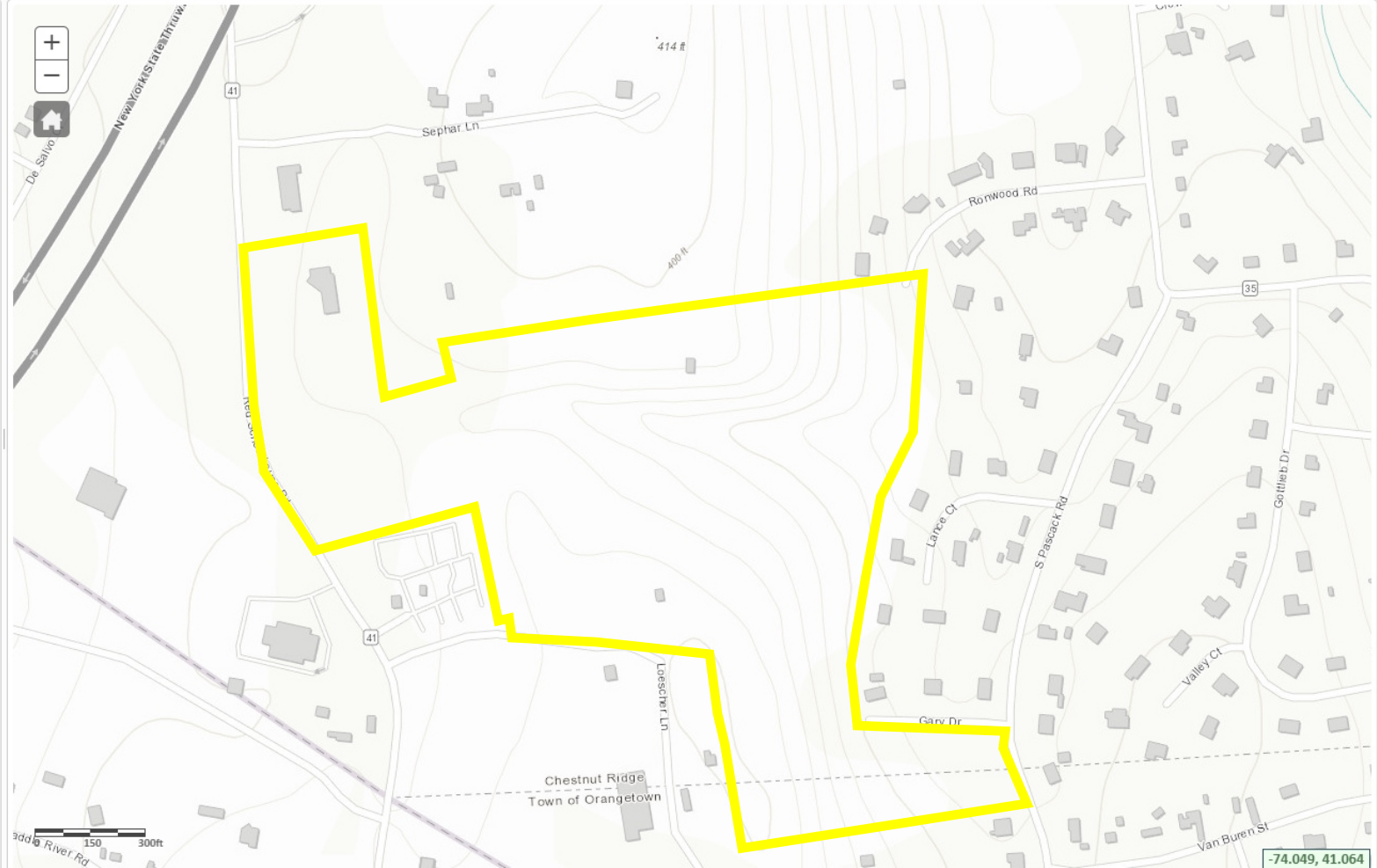


Figure 3.3-3: NYSDEC Wetlands Map
 Village of Chestnut Ridge, Rockland County, NY
 Source: NYSDEC

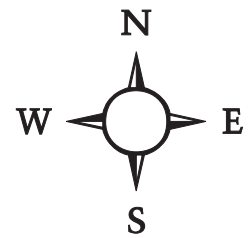
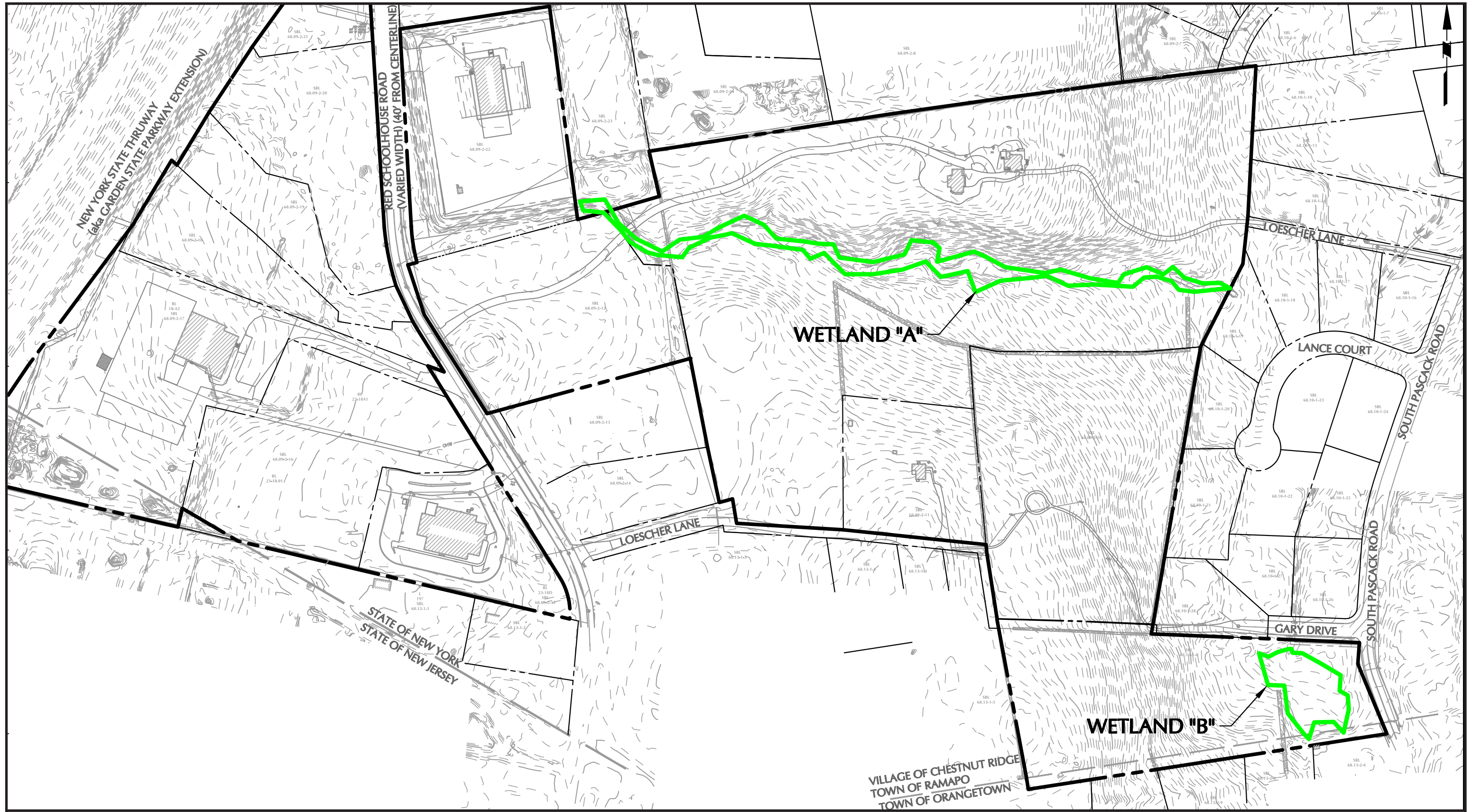


Figure 3.3-4: Federal Wetlands

Equestrian Estates

Town of Chestnut Ridge, Rockland County, New York

Source: Langan Engineering, Environmental, Surveying, Landscape

Architecture and Geology, D.P.C



Figure 3.3-5: 1984 Aerial Photo
Village of Chestnut Ridge, Rockland County, NY
Source: Rockland County GIS